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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/060,153	02/01/2002	Masanobu Takashima	Q67104	7577

7590

08/25/2003

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EXAMINER

THORNTON, YVETTE C

ART UNIT

PAPER NUMBER

1752

DATE MAILED: 08/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/060,153

Applicant(s)

TAKASHIMA ET AL.

Examiner

Yvette C. Thornton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3,4,7 and 8 is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6 and 9-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other:

DETAILED ACTION

This is written in reference to application number 10/060153 filed on February 1, 2002 and published as US 2002/0182530 A1 on December 5, 2002.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The Information Disclosure Statement filed on February 1, 2002 has been entered and fully considered.

Claim Objections

3. Claims 12, 14, 16, 18 and 20 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claimed formula (4) appears to be broader in scope than claimed formula (1) from which it depends.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted

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structural cooperative relationships are: claim 10 as written fails to contain the structure of claimed formula (A).

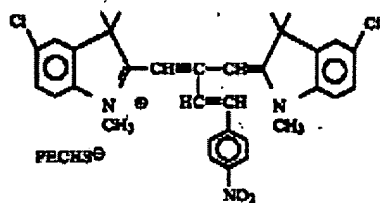
6. Claims 12, 14, 16, 18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear to the examiner how claimed formula (4) is a representation of claimed formula (1).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-2, 5-6 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalzell et al. (US 4307182 A) in view of Donald et al. (US 4168981 A). Dalzell exemplifies in example 52 a radiation sensitive element comprising a substrate having coated on at least one side a radiation sensitive layer comprising a dye of formula:



; a tetraaliphatic borate salt having the formula $\text{BBu}_3\text{C}\equiv\text{CH}_3$; a

trifluoroacetic acid fix and a PMMA binder (c. 17-18). It is the examiner's position that the said dye meets the limitations of claimed formula (1) wherein Z^1 and Z^2 represents a 5-

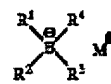
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member ring condensed with a substituted aromatic ring; R^1 and R^2 are an aliphatic methyl group; and R^3 is $-L^3=L^4-R^5$ wherein R^5 is a substituted aromatic group. The limitations of instant claim 2 are met wherein Y^{21} and Y^{22} each represent a $CR^{25}R^{26}$ group where R^{25} and R^{26} are aliphatic methyl groups. The limitations of claimed formula (A) are met by the taught borate salt wherein Ra^{1-4} are aliphatic groups (see c. 2, l. 16-59).

Dalzell teaches all the limitations of the instant claims except it fails to exemplify the use of a polymerizable compound having an ethylenically unsaturated bond. It is the examiner's position that it is well known and conventional in the art that composition comprising a polymerizable monomeric compound and a radiation sensitive, free radical generating system have variable shelf life or stability. This position is supported by the background teachings of Donald which discloses that composition comprising a polymerizable monomeric compound and a radiation sensitive, free-radical generating system have variable shelf life or stability, especially at elevated temperature (c. 1, l. 14-21). One of ordinary skill in the art would have been motivated by what is well known and conventional in the art to incorporate a polymerizable compound into the exemplified composition of Dalzell in order to improve stability, especially at elevated temperatures.

9. Claims 1-2, 5-6, 9-11, 13, 15, 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al. (US 2002/0168494 A1) in view of Steiger et al. (US 4311786 A). Nagata teaches a photopolymerizable composition comprising at least one ethylenically unsaturated bond-containing compound; a hexaaryl-biimidazole compound; an

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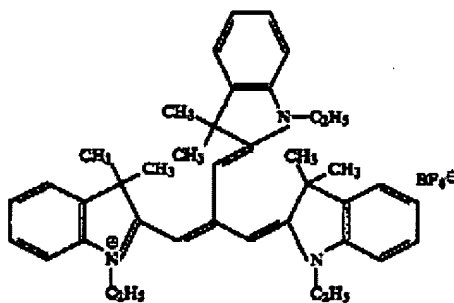
organoboron compound represented by general formula (1): ; and at least one of cationic organic dyes, anionic organic dyes and nonionic organic dyes (p. 0016-0022).

Nagata further teaches a photosensitive thermal recording material having recording layers on a support, in which at least one layer contains a color-forming component A which is encapsulated in thermo-responsive microcapsules; a substantially color less compound B which has a site which reacts with the color forming component A to form a color and which exist outside the said microcapsule; and the said photopolymerization composition (p. 0023). Another embodiment of the invention is the photosensitive material in which at least one of the compounds containing an ethylenic unsaturated bond is component B (p. 0024). Still another embodiment of the taught invention is the photosensitive material in which the compound containing an ethylenic unsaturated bond is a color formation-inhibiting compound having, in one molecule, a site which inhibits the reaction of the color-forming component A and the compound B (p. 0025). Still another embodiment of the taught invention is the photosensitive recording material in which the recording layers are formed to have a multi-layered structure that comprises a first recording layer which is sensitive to light having a center wavelength of λ_1 and forms a color, a second recording layer sensitive to light at λ_2 and forms a color that differs from the color of the first layer, . . . an i^{th} recording layer sensitive to light at λ_i and forms a color that differs from the color of the first, second, . . . ($i-1$)th recording layers, laminated in that order on the support (p. 0026). Nagata further teaches that the taught photopolymerization composition may contain a binder. In the case

where the composition is a liquid or a viscous substance, adding a binder thereto is preferred (p. 0122-0125).

Nagata et al. teach all the limitations of the instant claims except it fails to explicitly teach the use of a compound of claimed formula (1). Nagata teaches that the organic dye may be selected from known compounds but preferably has a maximum absorption wavelength of from 300-1000 nm. The organic dyes may be any of cationic organic dyes, anionic organic dyes and nonionic organic dyes (p. 0098-0112).

Steiger et al. teach the synthesis of novel halogenated trinuclear cyanine dyes and their use as sensitizers in photographic materials (c. 1, l. 1-44) Example 1 exemplifies the



synthesis of a dye having the formula (5)

(c. 15, l. 25-

68). The said dye has an absorption maximum in methanol of 627 nm. One of ordinary skill in the art would have been motivated by the teachings of Nagata to use any organic dye having a maximum absorption wavelength in the range of 300-1000 nm, such as that exemplified in example 1 of Steiger, in the taught radiation sensitive composition and recording material of Nagata. The examiner is of the position that Steiger serves to show what is well known in the art in regard to cyanine dyes.

Allowable Subject Matter

10. Claims 12, 14, 16, 18 and 20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

11. Claims 3-4 and 7-8 are allowed.

12. The following is an examiner's statement of reasons for allowance: review of the prior art failed to teach and/or suggest a photopolymerization composition comprising a compound of claimed formula (4), (5) or (6) as set forth in instant claims 3-4 and 12.

13. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Matsumoto et al. (US 2003/0059705 A1) pertaining to photopolymerizable compositions and recording materials using the same (see p. 0060, compound 1-6).
- Hoshi et al. (US 2002/0177074 A1) pertaining to planographic printing plate precursors and planographic printing method.

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yvette C. Thornton whose telephone number is 703-305-0589. The examiner can normally be reached on Monday-Thursday 8-6:30.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet C. Baxter can be reached on 703-308-2303. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

17. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1495.

A handwritten signature in black ink, reading "Yvette C. Thornton". The signature is written in a cursive, flowing style.

Yvette Clarke Thornton
Junior Examiner
Art Unit 1752

Yct
August 21, 2003